UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,946	03/10/2004	Douglas J. Matzke	9350.6-1	4485

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EXAMINER
WONG, LUT

ART UNIT	PAPER NUMBER
2129	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)	
Office Action Summary	10/796,946	MATZKE ET AL.	
	Examiner	Art Unit	
	LUT WONG	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>26 August 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-56</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-56</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

In view of the pre-appeal conference request filed on 8/26/2008, PROSECUTION

IS HEREBY REOPENED set forth below.

This office action is responsive to an AMENDMENT entered April 29, 2008 for

the patent application 10/796946.

Status of Claims

Claims 1-56 are pending.

Claim Objections

Claims 11, 18-20 are objected to because of the following informalities:

Claim 11 is missing a period (.).

Claim 20: change ".of" to "of" in line 1.

Claims 18-20: change "and operable" to "are operable".

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-56 are rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter.

The claims fail to provide a tangible result, and there must be a practical application,

by either

1) transforming (physical thing) or

2) by having the FINAL RESULT (not the steps) achieve or produce

a useful (specific, substantial, AND credible),

concrete (substantially repeatable/non-unpredictable), AND

tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject

matter, must be amended.   A claim that recites a computer that solely calculates a

mathematical formula is not statutory.

However, the portions of the opinions in State Street and AT&T relying <u>solely</u> on

a "useful, concrete and tangible" result analysis <u>should no longer be relied on</u>. Ex parte

Bilski, Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

The court has said that there's a two-pronged test to determine whether a

software of business method process patent is valid: (1) it is tied to a particular machine

or apparatus, or (2) it transforms a particular article into a different state or thing. In

other words, pure software or business method patents that are neither tied to a specific

machine nor change something into a different state are not patentable. Ex parte Bilski,

Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

Furthermore, the preamble is not given any patentable weight because it has

been held that a preamble is denied the effect of a limitation where the claim is drawn to

a structure and the portion of the claim following the preamble is a self-contained

description of the structure not depending for completeness upon the introductory

clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951). An intended use clause found in

the preamble is not afforded the effect of a distinguishing limitation unless the body of

the claim sets forth structure which refers back to, is defined by, or otherwise draws life

and breath from the preamble. In re Casey, 152 USPQ 235 (CCPA 1967).

> [In Abele], we held unpatentable a broad independent claim reciting a
> process of graphically displaying variances of data from average values.
> *Abele*, 684 F.2d at 909. **That claim did not specify any particular type
> or nature of data; nor did it specify how or from where the data was
> obtained or what the data represented.** *Id.*; … In contrast, we held one
> of Abele's dependent claims to be drawn to patent-eligible subject matter
> where it specified that "said data is X-ray attenuation data produced in a
> two dimensional field by a computed tomography scanner." *Abele*, 684
> F.2d at 908-09. This data clearly represented physical and tangible
> objects, namely the structure of bones, organs, and other body tissues.
> Thus, the transformation of that raw data into a particular visual depiction
> of a physical object on a display was sufficient to render that more
> narrowly-claimed process patent-eligible.
>
> … So long as the claimed process is limited to a practical
> application of a fundamental principle to transform **specific** data, and the
> claim is limited to a **visual depiction that represents specific physical
> objects or substances**, there is no danger that the scope of the claim
> would wholly pre-empt all uses of the principle.
>
> This court and our predecessor court have frequently stated that
> adding a data-gathering step to an algorithm is insufficient to convert that
> algorithm into a patent-eligible process. *E.g.*, *Grams*, 888 F.2d at 840
> (step of "deriv[ing] data for the algorithm will not render the claim
> statutory"); *Meyer*, 688 F.2d at 794 ("[data-gathering] step[s] cannot make
> an otherwise nonstatutory claim statutory"). … **A requirement simply
> that data inputs be gathered—without specifying how—is a
> meaningless limit** on a claim to an algorithm because every algorithm
> inherently requires the gathering of data inputs. *Grams*, 888 F.2d at 839-
> 40. Further, the inherent step of gathering data can also fairly be
> characterized as **insignificant extra-solution activity**. *See Flook*, 437
> U.S. at 590. (See In re Bilski, 88 USPQ2d 1397-1398, emphasis added)

Based on this guidance, examiner finds that the claimed "inputting data" does not

specify any particular type or nature of data, nor does it specify how or from where the

data is obtained, or what the data represents – and is therefore a meaningless limit on a

claim to an algorithm because every algorithm inherently gathers data – and this can

further be characterized as insignificant extra-solution activity. In re Bilski, 88 USPQ2d

1397-1398 quoting Grams and Flook. Furthermore, the

> As a corollary, the *Diehr* Court also held that **mere field-of-use
> limitations are generally insufficient** to render an otherwise ineligible
> process claim patent-eligible. *See* 450 U.S. at 191-92 (noting that
> ineligibility under §101 "cannot be circumvented by attempting to limit the
> use of the formula to a particular technological environment"). ... Pre-
> emption of all uses of a fundamental principle in all fields and pre-emption
> of all uses of the principle in **only one field** both indicate that the claim is
> **not** limited to **a particular application** of the principle. *See Diehr*, 450
> U.S. at 193 n.14 ("A mathematical formula *in the abstract* is nonstatutory
> subject matter regardless of whether the patent is intended to cover all
> uses of the formula or only limited uses.") (emphasis added). ...
> The *Diehr* Court also reaffirmed a second corollary to the machine-
> or-transformation test by stating that "insignificant postsolution activity will
> **not** transform an unpatentable principle into a patentable process." *Id.* at
> 191-92; *see also Flook*, 437 U.S. at 590 ("The notion that post-solution
> activity, no matter how conventional or obvious in itself, can transform an
> unpatentable principle into a patentable process exalts form over
> substance."). The Court in *Flook* reasoned:
>> A competent draftsman could attach some form of post-
>> solution activity to almost any mathematical formula; the
>> Pythagorean theorem would **not** have been patentable, or
>> partially patentable, because a patent application contained
>> a final step indicating that the formula, when solved, could
>> be usefully applied to existing surveying techniques.
> 437 U.S. at 590. Therefore, **even if** a claim recites a specific machine or a
> particular transformation of a specific article, the recited machine or
> transformation **must not constitute mere "insignificant postsolution
> activity."** (See In re Bilski, 88 USPQ2d 1393, emphasis added)

[T]he Court explicitly stated in *Benson* that "[t]ransformation and reduction of an article 'to a different state or thing' is <u>the</u> clue to the patentability of a process claim that does not include particular machines." 409 U.S. at 70 (emphasis added). And the Court itself later noted in *Flook* that at least so far it had "only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" 437 U.S. at 589 n.9. (See <u>In re Bilski</u>, 88 USPQ2d at 1392, emphasis in original.)

> The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a **particular** machine, or by showing that his claim transforms an article. *See Benson*, 409 U.S. at 70. Certain considerations are applicable to analysis under either branch. First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose **meaningful limits on the claim's scope** to impart patent-eligibility. *See Benson*, 409 U.S. at 71-72. Second, the involvement of the machine or transformation in the claimed process must **not** merely be insignificant extra-solution activity. *See Flook*, 437 U.S. at 590. (See <u>In re Bilski</u>, 88 USPQ2d at 1396, emphasis added.)

In instant case, **claims 1-56** are directed to a systems, methods, logics for manipulating "correlithm objects". Such object, when interprets in light of spec (see pgpub [0005]) and the claim, is merely a point of the space. Furthermore, such "object" can be an abstract data point (see pgpub [0014] where it states "A correlithm object may be used as a representation of a token or a code").

Claims 1-10, 47 are rejected under 101 for the following reasons:

1) non statutory process.

2) no practical application.

3) preemption.

As per 1) The claimed method is not tie to a particular machine or apparatus, nor transforms a particular article into a different state or thing. Specifically, the steps of establishing objects, imposing objects, comparing object, and recovering object can all be done in mental steps. There is no physical machine or apparatus required. Regarding transformation, since the "object" is not a physical object nor represents physical entity, there is no "physical" transformation in the manipulation process.

As per 2) since the claim did not specify any particular type or nature of data (i.e. "object"), nor did it specify how or from where the data was obtained or what the data represented, it is purely abstract. As such, the claimed method lacks a practical application that provides "tangible" (i.e. non abstract) result. Furthermore, applicant's method is directed to judicial exception of natural phenomena. See pgpub [0048] where it recites "functions may be performed using any suitable logic comprising software, hardware, other logic, **naturally occurring phenomena** that models the behavior".

As per 3) since the claim did not specify any particular type or nature of data (i.e. "object"), nor did it specify how or from where the data was obtained or what the data represented, it is purely abstract. As such, the claimed method is essentially preempting every practical applications.

Claims 11-20, 48 are rejected under 101 for the following reasons

1) non statutory system.

2) no practical application.

3) preemption.

As per 1) The claimed system is can be software per se. The "generator",
"recoverer" can all be software modules (See pgpub [0048]), which makes the claimed
system as a whole a software system.

As per 2) and 3), it is rejected for the same reason as claim 1 above.

Claims 21-30, 49 are rejected under 101 for the following reasons

1) non statutory product.

2) no practical application.

3) preemption.

As per 1) Claim 21 recites "Logic for...., the Logic embodied in a medium". The
claim, when interpreted in light of the spec, includes non statutory product. Spec pgpub
[0048] recites "Additionally, functions may be performed using any suitable logic
comprising software, hardware, **other logic**, **naturally occurring phenomena** that
models the behavior, or any suitable combination of the preceding". While it is well
known in the art that logic can be implement in software, hardware, or both. It is not
that well known what "other logic" includes. Is "naturally occurring phenomena"
considered as "other logic"? The Examiner asserts that "naturally occurring
phenomena" is considered as "other logic" in view of the context. As such, the claim is
directed to judicial exception itself. Furthermore, the term "medium" is not explicitly
defined, which means signal/carrier wave can be considered as the "medium". Since
carrier wave is a form of energy, any claims drawn to a signal in non statutory.

As per 2) and 3), it is rejected for the same reason as claim 1 above.

Claims 31 and 50 are rejected under 101 for the following reasons

1) non statutory system.

2) no practical application.

3) preemption.

As per 1) Claim 31 recites "A system…comprising: means for". Claim 31 invokes 112.6 with means plus function language. The "means", when interpreted in view of the spec [0048], include non statutory mean, such as software per se, "other logic", and "natural phenomena".

As per 2) and 3), it is rejected for the same reason as claim 1 above.

Claims 32-36, 46, 51-52, and 56 are rejected under 101 for the same reasons as claim 1 above.

Claims 37-40, 53 are rejected under 101 for the same reasons as claim 11 (reasons 2 and 3) above.

Claims 41-44, 54 are rejected under 101 for the same reasons as claim 21 above.

Claim 45 and 55   are rejected under 101 for the same reasons as claim 31 above.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-30, 49, 41-44, 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21 and 41 recite "Logic". The term, when interpreted in light of the spec (See pgpub [0048]) includes software, hardware, **other logic.** While it is well known in the art that logic can be implement in software, hardware, or both. It is not that well known what "other logic" includes. As such, the metes and bounds of the claim are not clear.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-56 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for hardware, software implementation, does not reasonably provide enablement for "other logic", "natural occurring phenomena" implementation. The specification does not enable any person skilled in the art to which

it pertains, or with which it is most nearly connected, to make and use the invention

commensurate in scope with these claims.

As set forth in the 101 and 112.2 rejections above, Spec pgpub [0048] recites

"Additionally, functions may be performed using any suitable logic comprising software,

hardware, **other logic**, **naturally occurring phenomena** that models the behavior, or

any suitable combination of the preceding". While it is well known in the art that logic

can be implement in software, hardware, or both. One skill in the art would not know

how to implement the function using "other logic", "naturally occurring phenomena".

Response to Arguments

Applicant's arguments, see pre-appeal conference request pg 1-4, have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LUT WONG whose telephone number is (571)270-1123.

The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vincent David can be reached on (571) 272-3080. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

/Lut Wong/
Patent Examiner, AU 2129
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